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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* DAVID E. ALBRECHT

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Appeal 2009-000803  
Application 09/443,793  
Technology Center 3600

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Decided: August 10, 2009

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Before LINDA E. HORNER, MICHAEL W. O'NEILL, and  
STEFAN STAICOVICI, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL

## STATEMENT OF THE CASE

David E. Albrecht (Appellant) seeks our review under 35 U.S.C. § 134 of the Examiner's decision rejecting claims 28-35. Claims 1-27 are cancelled. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

## SUMMARY OF DECISION

We AFFIRM.

## THE INVENTION

The Appellant's claimed invention is flange plates for a fluid port interface. Spec. 1:1. Claim 28, reproduced below, is representative of the subject matter on appeal.

28. Apparatus for providing a non-threaded fluid seal between two port faces, comprising:

a) a generally planar, one-piece plate, the plate having an opening and a plurality of bolt holes, the opening having a boundary, the plate having a pair of surfaces which are parallel to each other,

b) a one-piece non-threaded annular seal disposed within the boundary of the opening, and extending around the entire boundary of the opening, the one-piece seal having a thickness which is at least as large as a distance between said surfaces of the plate, and

c) a non-threaded structural support ring disposed within the annular seal, the support ring being made of metal,

wherein the support ring includes at least one orifice which provides a fluid connection between said opening and said annular seal,

wherein the support ring has an inner surface which is not in contact with the seal, wherein the support ring has a diameter, taken at the inner surface, which is generally uniform except at the orifice,

wherein the annular seal comprises the sole means for providing a seal between said two port faces, and

wherein the orifice has a longitudinal axis which is generally parallel to said surfaces.

### THE EVIDENCE

The Examiner relies upon the following evidence:

Jones	US 2,278,721	Apr. 7, 1942
Aichroth	US 3,167,322	Jan. 26, 1965
Rode	US 3,561,793	Feb. 9, 1971
Barbarin	US 3,704,021	Nov. 28, 1972
Breaker	US 5,518,257	May 21, 1996
Johnson	US 5,765,835	Jun. 16, 1998

### THE REJECTIONS

The Appellant seeks review of the following decisions by the Examiner:

1. Rejection of claims 28-35 under 35 U.S.C. § 103(a) as unpatentable over Barbarin, Breaker, and Rode.
2. Rejection of claims 28-30 and 32-34 under 35 U.S.C. § 103(a) as unpatentable over Johnson, Aichroth, and Jones.
3. Rejection of claims 28-35 under 35 U.S.C. § 103(a) as unpatentable over Aichroth, Jones, and Rode.

4. Rejection of claims 28-35 under 35 U.S.C. § 103(a) as unpatentable over Aichroth, Breaker, and Rode.

### ISSUES

In the first rejection, the Examiner rejected claims 28-35 under 35 U.S.C. § 103(a) as unpatentable over Barbarin, Breaker, and Rode. The Examiner found Barbarin discloses the limitations of claims 28-35, except that Barbarin does not disclose: an orifice in the support ring, the support ring being made of metal, and bolt holes in the plate. Ans. 3. The Examiner found that Breaker teaches use of an orifice to provide fluid communication to the annular seal, and also teaches the use of metal as a material for a support ring. Ans. 3. The Examiner found that Rode teaches the use of bolt holes in a plate. Ans. 3. The Examiner concluded it would have been obvious to a person of ordinary skill in the art to modify Barbarin's device by providing an orifice in the support ring as taught by Breaker in order to permit fluid communication to the seal, making the support ring of metal as taught by Breaker as an equivalent material, and adding bolts holes to the plate as taught by Rode in order to properly place and secure the plate. Ans. 3-4.

The Appellant argues claims 28-35 as a group. App. Br. 14-18. As such, we select claim 28 as the representative claim, and claims 29-35 stand or fall with claim 28. 37 C.F.R. § 41.37(c)(1)(vii) (2008). The Appellant makes two arguments against the first rejection. First, the Appellant argues that a person of ordinary skill in the art would not combine Breaker's orifice with Barbarin's device because Breaker's orifice leads to an internal o-ring, not one that directly contacts fluid components, and because Breaker has a two-piece seal, rather than a one-piece seal as in Barbarin. App. Br. 14-15.

Second, the Appellant contends that the references do not teach or suggest an inner ring that is structural as claimed. App. Br. 15-17.

The issues before us for the first rejection are:

Has the Appellant rebutted the Examiner's conclusion of obviousness by showing that a person of ordinary skill in the art would not combine Breaker's orifice with Barbarin's device?

Has the Appellant shown the Examiner erred because, even if combined, the references do not teach or suggest an inner ring that is structural?

In the second rejection, the Examiner rejected claims 28-30 and 32-34 under 35 U.S.C. § 103(a) as unpatentable over Johnson, Aichroth, and Jones. The Examiner found Johnson discloses the limitations of the claims, except that Johnson does not disclose the seal being annular or the support ring having an orifice that provides a fluid connection between the opening and the seal. Ans. 4. The Examiner found that Aichroth teaches use of an annular seal between port faces comprising a plate, a seal, and a support ring. Ans. 4. The Examiner found that Jones teaches the use of an orifice to provide a fluid connection between the opening and the seal. Ans. 4. The Examiner concluded it would have been obvious to a person of ordinary skill in the art to modify Johnson's device by using an annular seal as taught by Aichroth as an equivalent shape, and adding an orifice in order to permit fluid communication to the seal as taught by Jones in order to make the seal tight and prevent leakage. Ans. 4-5.

The Appellant argues claims 28-30 as a first group. App. Br. 18-23; Reply Br. 3-5. As such, we select claim 28 as the representative claim, and claims 29-30 stand or fall with claim 28. 37 C.F.R. § 41.37(c)(1)(vii) (2008). The Appellant makes three arguments against this group of claims.

First, the Appellant argues that Johnson is non-analogous art. App. Br. 18-19. Second, the Appellant argues that Jones's orifices are not oriented as claimed. App. Br. 19-20. Third, the Appellant maintains that Jones solves a different problem from the claimed invention because Jones is a temporary structure. App. Br. 21-22.

The Appellant argues claims 32-34 as a second group. App. Br. 24. As such, we select claim 32 as the representative claim, and claims 33 and 34 stand or fall with claim 32. 37 C.F.R. § 41.37(c)(1)(vii) (2008). The Appellant repeats the arguments made for patentability of claims 28-30 and adds that "because claims 32-34 explicitly recite the fluid component, there is even more reason to disregard Johnson, which deals with a waveguide." App. Br. 24.

The issues before us for the second rejection are:

Has the Appellant shown Johnson is non-analogous art?

Has the Appellant shown the Examiner erred in concluding the claimed orifices would have been obvious because Jones's orifices are not oriented as claimed?

Has the Appellant rebutted the Examiner's conclusion of obviousness by arguing that Jones solves a different problem from the claimed invention because Jones is a temporary structure?

In the third rejection, the Examiner rejected claims 28-35 under 35 U.S.C. § 103(a) as unpatentable over Aichroth, Jones, and Rode, and in the fourth rejection rejected the claims as unpatentable over Aichroth, Breaker, and Rode. Each of these conclusions of obviousness is based, in part, on an underlying finding of fact that Aichroth discloses a plate. Ans. 5. The Appellant argues that outer retainer 26 of Aichroth is not a plate. App. Br. 25, 27-28.

The issue before us for the third and fourth rejections is:

Has the Appellant shown the Examiner erred in the decision to rejection claims 28-35 because the outer retainer 26 of Aichroth is not a plate?

### FINDINGS OF FACT

We find that the following enumerated facts are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Breaker discloses a seal device designed so that the sealing characteristics improve as the hydrodynamic and hydrostatic forces of the fluid contained in the flow line increase. Breaker, col. 1, ll. 9-13.
2. Breaker discloses a twentieth embodiment of an annular seal device 2010 installed between first and second annular flanges 2040, 2042. Annular seal device 2010 comprises a polymeric seal jacket element 2026, partially encasing an elastomeric o-ring (spring element 2028), and an inner retainer member 2081.<sup>1</sup> A plurality of radially extending passageways, such as passageway 2087, permit fluid communication between the central opening 2012, through channel opening 2020, to the elastomeric o-ring (spring element 2028). Breaker, col. 12, ll. 33-44; fig. 28.

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<sup>1</sup> Inner retainer member 2081 is not identified in Figure 28, but inner retainer member 1981 of Figure 27 and inner retainer member 2181 of Figure 29 are illustrative.



3. Breaker discloses annular outer seal retainer member 16 may be fabricated of a rigid material, such as metal. Annular outer seal retainer member 16 can then resist compressive forces, such as those generated by the torque applied to the attaching nuts and bolts when annular seal device 10 is installed between pieces of pipe. This resistance protects the sealing properties of annular inner seal member 14. Breaker, col. 8, ll. 19-22, 29-36; fig. 5.
4. The Appellant's Specification describes the claimed invention as related to "the field of fluid control," and intended for use at the "end of a fluid conduit" or "at an interface between fluid conduits." The Appellant's Specification describes that the device must prevent fluid leaks, prevent contaminant entry, and provide enough strength to withstand fluid pressure. Spec.1:3-5, 10-14.
5. The Appellant's Specification describes that in the prior art there was no solid member within the o-ring of a conventional sealing plate, so that there was nothing to support the valve body. This shortcoming permitted the force of fluid flow to dislodge the seal and the valve body to become distorted when pressing against the seal. In order to prevent these problems, the Appellant's device adds a structural support ring 13 within the o-ring. Structural support ring 13 is sized to hold the support ring 13 and the annular seal/o-ring 11 in place within sealing plate 15, and provides a supporting surface against which a valve or other component can bear. The support ring 13 is preferably metal, but "can also be made of other materials which are hard compared with the relatively resilient material of the O-ring." Spec. 6:15 to 8:8; figs. 1A, 1B, 2A, 2B, 3A, 3B.

6. The problem faced by Appellant was a fluid conduit sealing problem (Facts 4, 5).
7. Barbarin discloses a seal for a hydraulic system for use between pipe couplings and the like. The seal is comprised of a plastic inner ring 11, on which is mounted an o-ring 12. Mounted on the o-ring is a plastic outer ring 13, and mounted on outer ring 13 is a rigid steel ring 14. Barbarin, col. 1, ll. 4-6, 58-64; fig. 2.
8. Barbarin discloses that inner ring 11 is the same thickness as metal ring 14. Barbarin, col. 2, ll. 14-15.
9. Johnson discloses a waveguide seal assembly 11 for joints of interconnected waveguide flanges 13, 15 in vacuum and pressure applications. Johnson discloses that waveguide joints must be properly sealed to hold the pressure or vacuum of the system. Johnson, col. 1, ll. 4-7, 10-12, col. 2, ll. 33-37.
10. Johnson's seal assembly 11 includes an inner part 29, an outer part 33, and an elastomeric sealing element 41. The inner part 29 is a narrow rectangular ring sized and shaped to fit within waveguide flanges 13, 15, and having a defined outer perimeter 31. Inner part 29 fits within central opening 35 of outer part 33, leaving an intermediate gap 39 between inner part 29 and outer part 33. Intermediate gap 39 contains the elastomeric sealing element 41 that holds inner part 29 and outer part 33 together in a unitary assembly. Johnson, col. 2, ll. 52-66; fig. 1.
11. Gas is a fluid.
12. Jones discloses a device that renders the bonnet-body joint of a welded-bonnet valve pressure tight so that the valve may be safely

- pressure-tested without leaks before the valve is welded. Jones, col. 1, ll. 4-8; col. 2, ll. 6-12.
13. Jones discloses one of the purposes of the device is that the fluid pressure in the valve operates to seal the joint. Jones, col. 2, ll. 13-16.
14. Jones discloses the lower edge of bonnet 4 has a surface 43 around its circumference, and the upper edge of casing 1 has a surface 44 around its circumference, so that when bonnet 4 is placed on casing 1, a welding groove is formed. Jones, p. 1 (right col.), ll. 49-50; p. 2 (left col.), ll. 71-72; figs. 2, 3. The welding groove is smallest at the inner circumference of the surfaces 43, 44, becoming gradually larger towards the outer circumference, then narrowing slightly at the outermost edge of the circumference. Jones, Figs 2, 3. The innermost portion of the welding groove is chamber 73, where the weld 6 will be added later. Jones, p. 2 (right col.), l. 72; fig. 2 (right side of figure shows void 73; left side shows weld 6 in place). Adjoining chamber 73, slightly further from the inner diameter of the welding groove, is gasket back-up ring 38. Jones, p. 2 (left col.), ll. 66-67. Gasket back-up ring 38 has radial apertures 39 that run from chamber 73, substantially flatwise to surfaces 43, 44, towards the outer circumference of the bonnet 4 and casing 1. Jones, p. 2 (left col.), ll. 66-72; fig. 2. Further from the inner diameter of the space is U-shaped annular gasket 46, in concentric abutment with gasket back-up ring 38, with the hollow side of the U facing towards gasket back-up ring 38, so that chamber 47 is formed. Jones, p. 2 (left col.), l. 72 to p. 2 (right col.), l. 1. Ring 48 is configured

around the outer circumference of bonnet 4 and casing 1, covering the space between surfaces 43, 44, so that the opposite of the hollow side of substantially U-shaped annular gasket 46 abuts ring 48. Jones, p. 2 (right col.), l. 2; fig. 2.

15. Jones discloses that during pressure testing of the valve, pressure enters chamber 73 at the inner diameter of the welding groove, and passes through orifice 39 to chamber 47, where the pressure pushes U-shaped annular gasket 46 into sealing engagement of surfaces 43, 44, and the ring 48. Jones, col. 4, l. 71 to col. 5, l. 6.
16. Aichroth discloses a seal for static and dynamic applications. Aichroth, col. 1, ll. 7-8.
17. Aichroth discloses the seal 20 includes an o-ring 22 mounted between an inner retainer 24 and an outer retainer 26. Aichroth, col. 2, ll. 20-23; fig. 1.
18. While Aichroth discloses that outer retainer 26 has substantially plane parallel radial walls 28, in all of the example dimensions given, outer retainer 26 is approximately one quarter inch in width. Aichroth, col. 3, ll. 5-15; figs. 10-12 (the width of outer retainer 26 is dimension A minus dimension B).
19. The Appellant's Specification does not provide a definition of "plate" as used in the claims. Spec. *passim*.
20. The Appellant's Specification consistently refers to the portion of the device within the annular seal as a ring, and not as a narrow plate, suggesting that a ring is not a plate. See, e.g., Spec. 9:13-14 (structural support plate 19 and structural support ring 23); fig. 5E.

## PRINCIPLES OF LAW

The analogous-art test requires that the Board show that a reference is either in the field of the applicant's endeavor or is reasonably pertinent to the problem with which the inventor was concerned in order to rely on that reference as a basis for rejection. *In re Oetiker*, 977 F.2d 1443, 1447 (Fed. Cir. 1992). References are selected as being reasonably pertinent to the problem based on the judgment of a person having ordinary skill in the art. *Id.* (“[I]t is necessary to consider ‘the reality of the circumstances,’-in other words, common sense-in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor.” (quoting *In re Wood*, 599 F.2d 1032, 1036 (C.C.P.A.1979))).

*In re Kahn*, 441 F.3d 977, 986-87 (Fed. Cir. 2006).

“‘A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem.’ *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992). In other words, ‘familiar items may have obvious uses beyond their primary purposes.’” *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1379-1380 (Fed. Cir. 2007) (quoting *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 402, 420 (2007)).

Appellant has the burden on appeal to the Board to demonstrate error in the Examiner’s position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) (“On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of

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nonobviousness.”) (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

## ANALYSIS

### *1. Rejection of claims 28-35 under 35 U.S.C. § 103(a) as unpatentable over Barbarin, Breaker, and Rode*

We are unconvinced by the Appellant’s argument that a person of ordinary skill in the art would not have modified Barbarin’s device with an orifice as taught by Breaker. The Appellant’s argument is based on two underlying contentions. First, the Appellant contends that Breaker’s orifice does not meet the claim limitation because Breaker’s orifice leads to an internal o-ring (annular seal), not one that directly contacts fluid components. App. Br. 14. The Appellant has failed to address the proposed combination because the rejection uses the o-ring of Barbarin, not Breaker. Further, the Appellant’s contention is not supported by the claim. Claim 28 does not require that the orifice ensures that the o-ring (annular seal) directly contacts fluid components; rather, the claim requires the orifice to provide fluid communication between the support ring opening and the annular seal (o-ring). The proper question is if this claim limitation is met by the proposed combination.

Breaker discloses a seal device with an orifice that provides fluid communication between the support ring opening (central opening 2012) and the annular seal (o-ring 2028) (Facts 1, 2; parenthetical nomenclature to Breaker). If this teaching of Breaker is used to modify Barbarin as proposed by the Examiner, the orifice will provide fluid communication from the opening, through the support ring (inner ring 11) to the annular seal (o-ring 12), as claimed (parenthetical nomenclature to Barbarin).

The Appellant's second contention, that a person of ordinary skill would not make the proposed modification because Breaker is a two-piece seal and Barbarin is a one-piece seal, is also unconvincing. Breaker discloses that the orifice permits fluid communication with the seal, and that as the hydrodynamic and hydrostatic forces of the fluid contained in the flow line increase, the sealing characteristics of the o-ring improve (Facts 1, 2). Assuming that Breaker is a two-piece seal, Breaker's teaching that fluid pressure applied through an orifice improves the sealing characteristics applies equally well to a one-piece seal as to a two-piece seal. The Appellant has not provided an explanation that suggests otherwise. We conclude that a person of ordinary skill in the art would recognize that Breaker's orifice would improve similar devices, like Barbarin's, in the same way. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) ("[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.").

The Appellant's argument that the references do not teach or suggest an inner ring that is structural, as claimed, is based on several contentions about the references. App. Br. 15-17. The Appellant contends that: (1) Barbarin's inner ring 11 is plastic and therefore could not provide structural support (App. Br. 15); (2) Breaker does not provide the claimed structural support because Breaker's support ring has a concave shape rather than a generally uniform diameter recited in the claim (App. Br. 16); and (3) Barbarin's disclosure that the plastic inner ring holds the components of the seal together during storage suggests that the inner ring does not provide structural support (Reply Br. 2). The Examiner's proposed combination

uses Breaker's teaching that a seal retainer member can be made of metal (Fact 3) to modify Barbarin's inner ring to make it of metal. The rejection does not use Barbarin's plastic material and does not purport to modify the shape of Barbarin's ring to use the shape of the inner ring of Breaker.

Next, the Appellant contends that Breaker teaches use of metal only for a seal jacket. App. Br. 15. This contention fails to demonstrate error by the Examiner because the contention is factually incorrect. Breaker discloses an annular seal device that includes annular outer seal retainer member 16, made of metal in order to protect the sealing properties of the device when subject to compressive forces, such as those present when the seal is installed between pipes (Fact 3).

The Appellant also contends that the "plastic ring of Barbarin [meaning inner ring 11] is thinner than the outer rings 13 and 14," so that no support will be provided by ring 11 until rings 13 and 14 are "significantly deformed." Reply Br. 2. This assertion is based on an incorrect factual premise, because contrary to the Appellant's assertion, Barbarin discloses that inner ring 11 can be the same thickness as outer ring 14 (Fact 8). None of the Appellant's arguments demonstrate that the inner ring of the proposed rejection is not structural as claimed.

The Appellant broadly asserts that the Examiner used impermissible hindsight, and that the references taken as a whole do not suggest the claimed device. App. Br. 14, 17-18. The Appellant's argument seems to be a summarization of the early arguments presented against the rejection that we determined, *supra*, were unconvincing. The Appellant has the burden of proof, and this conclusory statement that the Examiner used hindsight does not demonstrate error by the Examiner.



2. *Rejection of claims 28-30, and 32-34 under 35 U.S.C. § 103(a) as unpatentable over Johnson, Aichroth, and Jones*

*Claims 28-30*

We are not persuaded by the Appellant’s argument that Johnson is non-analogous art. App. Br. 18-19; Reply Br. 3-4. The Appellant sought to create a device for the end or the interface of fluid conduits that prevents leaks and entry of contaminants with enough strength to withstand fluid pressure (Fact 4). More specifically, the Appellant sought to overcome the prior art’s disadvantages of the seal dislodging due to the force of fluid flow, and the valve body distorting when pressing against the seal (Fact 5). The problem facing the Appellant was a fluid conduit sealing problem (Fact 6). *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[T]he problem examined is not the specific problem solved by the invention but the general problem that confronted the inventor before the invention was made”).

Johnson discloses a waveguide seal assembly for joints of interconnected sections (conduits) of a waveguide that properly seals to retain gas pressure (Fact 9). Because gas is a fluid (Fact 11), Johnson addresses the same problem the Appellant faced at the time of the claimed invention, namely, a fluid conduit sealing problem.

The Appellant admits that Johnson’s device is used for pressure applications, but attempts to draw a distinction because the Appellant’s device is used with a hydraulic fluid, such as oil, while a waveguide typically contains gas or a vacuum. App. Br. 18. This is a distinction without a difference. The claimed device is a “fluid seal,” and both oil and gas are fluids. The Appellant also tries to create a distinction by asserting the hydraulic fluid would be “transmitted” through the claimed device, while in a waveguide the gas does not flow. App. Br. 18. This distinction is not

meaningful. For example, when a waveguide is pressurized, the gas must flow through the conduits to an extent, and further, the claimed device could at times contain pressurized, but not flowing, hydraulic oil. The claimed device is not limited to use with hydraulic fluid, nor does the claim contain a limitation that the fluid must be transmitted (flowing). The Appellant also contends that “it is improper to combine a reference dealing with waveguides with a reference dealing with hydraulic fluids.” Reply Br. 4. The proper question is whether a person of ordinary skill in the art, attempting to solve a fluid conduit sealing problem, would consider a device that provides a fluid conduit seal, such as the device of Johnson. The Examiner concluded a person of ordinary skill would consider such a device, and the Appellant has not persuaded us that this finding was erroneous.

The Appellant also suggests that a person of ordinary skill in the art would not consider Johnson’s device because inner part 29 is slightly thicker than outer part 33 and made of a dissimilar material, making Johnson’s device inappropriate for use in a high-pressure hydraulic system. Reply Br. 4. We find this argument unconvincing. First, directly contrary to the Appellant’s assertion, Johnson discloses the seal holds fluid pressure (Fact 9). Second, claim 28 contains no limitation regarding use with a high pressure system.

The Appellant also argues that Jones’s orifices are not oriented as claimed, and more specifically, that in the claimed device the orifice is positioned near the main flow of fluid, unlike in Jones’s device. App. Br. 19-20; Reply Br. 4-5. We note that the claim contains no limitation that the orifice is positioned near the main flow of fluid. The requirement is that the orifice provides fluid communication between the fluid and the annular seal. Further, the proper question is not whether the orifice of Jones is oriented as

required by claim 28. Rather, the proper question is what the disclosure of Jones would teach a person of ordinary skill in the art to apply to the device of Johnson. We begin with the scope and content of the prior art.

Jones discloses a device that permits safe and leak-free pressure testing of a welded bonnet gate valve before the bonnet is welded to the casing (Fact 12). Jones discloses the top portion of the valve (bonnet 4) is joined to the main body of the valve (casing 1) at a weld groove (Fact 14). Prior to welding the joint, Jones teaches securing a ring around the gate valve at the outer perimeter of the weld groove (Fact 14). Jones also discloses that inside the weld groove, an orifice provides fluid communication from the interior of the bonnet valve to a gasket that is in concentric abutment to the ring, allowing the gasket to seal the joint for pressure testing (Facts 13-15). A person of ordinary skill in the art, knowing the disclosure of Jones, would recognize that a fluid seal can be improved by providing fluid communication through an orifice to the gasket so that the pressure improves the sealing characteristics of the gasket.

In Johnson's device, the fluid pressure is against the inner perimeter of inner part 29 (within rectangular opening 28) (Fact 10). A person of ordinary skill in the art, armed with Jones's teaching, would recognize that an orifice from the inner surface of inner part 29 to the intermediate gap 39 would permit fluid communication to elastomeric sealing element 41, improving the sealing characteristics of Johnson's similar device. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) ("[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.").

The Appellant challenges this conclusion by pointing out that Jones's device is intended to be temporary. Reply Br. 5. We agree that Jones's device is intended for temporary use, in that once pressure testing is complete, Jones discloses that the device can be removed so that the valve may be welded together (Fact 12). However, we fail to see how this negates Jones's teaching that a fluid seal can be improved by providing fluid communication through an orifice to the gasket so that the pressure improves the sealing characteristics.

Like the Appellant's argument with regard to the first rejection, the Appellant broadly asserts that the Examiner used impermissible hindsight for the second rejection. App. Br. 22. More specifically, the Appellant repeats that Johnson and Jones are non-analogous art, and that Jones does not suggest the placement of the orifice.<sup>2</sup> It appears this conclusory argument is merely summarizing the Appellant's earlier arguments. The Appellant has the burden of proof and has not demonstrated error by the Examiner in the rejection of claim 28. Claims 29 and 30 fall with claim 28.

*Claims 32-34*

The Appellant repeats the arguments against claims 28-30, adding that "because claims 32-34 explicitly recite the fluid component, there is even more reason to disregard Johnson, which deals with a waveguide." App. Br. 24. Given that in our analysis of the Appellant's arguments regarding Johnson, we determined that gas is a fluid, this further assertion does not

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<sup>2</sup> The Appellant also asserts that Aichroth does not remedy the shortcomings of Jones and Johnson. App. Br. 23. Given that we determined the Appellant has not pointed out shortcomings of Jones or Johnson, analysis of this argument is not needed.

change our analysis. The Appellant has not demonstrated error by the Examiner in the rejection of claim 32. Claims 33 and 34 fall with claim 32.

*3. Rejection of claims 28-35 under 35 U.S.C. § 103(a) as unpatentable over Aichroth, Jones, and Rode*

In support of Appellant's argument that outer retainer 26 of Aichroth is not a plate, the Appellant maintains that Aichroth provides specific dimensions and the outer retainer is too narrow to support adequate bolt holes. App. Br. 25. The Appellant also asserts that outer retainer 26 does not meet the ordinary meaning of plate, which is a generally flat member, and that a quick glance at Figure 1 of Aichroth shows element 26 is not a plate. App Br. 25-26; Reply Br. 6. We agree that Aichroth's outer retainer 26 is not a plate as claimed. Claims 28 and 32 distinguish between a plate and a structural ring, rather than simply calling the structural ring a narrow plate. Further, while Appellant's Specification does not explicitly define "plate," the Specification consistently identifies the portion of the device within the o-ring as a ring, rather than as a narrow plate, suggesting a distinction between a ring and a plate (Facts 19, 20). While Aichroth's outer retainer 26 is described as having parallel walls, it is only disclosed as quite narrow (approximately one quarter inch) (Facts 16-18). Aichroth's outer retainer 26 is not a plate as claimed. The Appellant has demonstrated that the Examiner's conclusion of obviousness for claims 28 and 32 as being unpatentable over Aichroth, Jones, and Rode is based on an erroneous finding of fact. Claims 29-31 and 33-35 must also be reversed by virtue of their dependence from claims 28 and 32.

*4. Rejection of claims 28-35 under 35 U.S.C. § 103(a) as unpatentable over Aichroth, Breaker, and Rode*

For the reasons explained in the analysis of the third rejection, *supra*, Aichroth's outer retainer 26 is not a plate as claimed, and we reverse the Examiner's decision to reject claims 28-35 as unpatentable over Aichroth, Breaker, and Rode.

### CONCLUSIONS

The Appellant has failed to show the Examiner erred in the decision to reject claim 28 as unpatentable over Barbarin, Breaker, and Rode because the Appellant has failed to show that a person of ordinary skill in the art would not combine Breaker's orifice with Barbarin's device or that the references fail to teach or suggest an inner ring that is structural.

The Appellant has failed to show the Examiner erred in the decision to reject claims 28 and 32 as unpatentable over Johnson, Aichroth, and Jones because the Appellant has failed to show that Johnson is not analogous art, that the Examiner erred in reaching a conclusion of obviousness because Jones's orifices are not oriented as claimed, and that Jones is not combinable because it solves a different problem than the Appellant faced.

The Appellant has shown the Examiner erred in the decision to reject claim 28 as unpatentable over Aichroth, Jones, and Rode and as unpatentable over Aichroth, Breaker, and Rode because the outer retainer 26 of Aichroth is not a plate.

DECISION

We affirm the Examiner's decision to reject claims 28-35.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

mls

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